conductive grip 806. Thus, when the user grasps stylus 116 with conductive grip 806 the user is grounded by the electrical interaction of conductive grip 806 and shield 800' and pig-tail 808. Various structures and materials could be used to conductive grip 806 varying from spring loaded metal rings to conductive polymers. One such conductive polymer might be a carbon impregnated Kraton D-2104 polymer (e.g., RTP 2799X66439).

Additionally, it is well known by those skilled in the art how one would store data relative to points on any surface that might be employed with the present invention, as would be look-up tables to convert one coordinate system for a surface to another coordinate system.

While the discussions of the various embodiments of the present invention presented above address a variety of shapes and applications for the present invention, the shapes and applications addressed are clearly not an exhaustive list. One could easily extend such lists to many other shapes and applications and the techniques discussed above could easily be extended to each of them. Thus, the present invention is not limited solely to the scope of what has been discussed above, but rather is only limited by the scope of the claims appended hereto.

What is claimed is:

[1. An electrographic sensor unit for use in determining the position of a selected point, which comprises:

a layer of a conductive material having an electrical resistivity and a surface;

K spaced apart contact points electrically interconnected with said layer of conductive material;

a processor connected to said K spaced apart contacts and disposed to selectively apply a signal to N of said K contact points relative to a signal neutral point, and where N has an integer value of 3 to K; and

a probe assembly including:

a cable having a first conductor and a second conductor with the proximate end of said one conductor coupled to said processor and the proximate end of said second conductor connected to said signal neutral point; and

a stylus coupled to said cable and incorporating therein distal ends of said first and second conductors with the distal end of said first conductor disposed to receive signals from said layer when said contact points have signals selectively applied thereto and said user positions said stylus in vicinity of a user selected point on said surface, and with the distal end of said second conductor disposed to be contacted by said user when holding said stylus to connect said user to said signal neutral point;

wherein said position of said stylus relative to said surface of said layer is determinable by said processor from signals received from said first conductor of said stylus each in relation to a similar excitation of J different pairs of said K contact points under control of said processor, where J is an integer between 2 and (N−1).]

[2. An electrographic sensor unit as in claim 1 wherein:

said processor selectively applies AC signals to selected ones of said K spaced apart contact points;

said distal end of said first conductor detects signals radiated from said layer of conductive material as an antenna without making physical contact with said layer; and

said distal end of said second conductor when contacted by said user connects said user to said signal neutral point to minimize any noise radiated by said user from being received by said distal end of said first conductor and being delivered to said processor.]

[3. An electrographic sensor unit as in claim 1 wherein said stylus further includes an electrically conductive contact making electrical contact to said distal end of said second conductor, and located externally and positioned to be contacted by the user during use of said stylus.]

[4. An electrographic sensor unit as in claim 3 wherein said electrically conductive contact is a flexible conductive polymer that encircles said stylus at a position to maximize the user's comfort when holding said stylus.]

[5. An electrographic sensor unit for use in determining the position of a selected point, which comprises:

a layer of a conductive material having an electrical resistivity and a surface;

three spaced apart contact points electrically interconnected with said layer of conductive material;

a processor connected to said three spaced apart contacts and disposed to selectively apply a signal to each of said three contact points relative to a signal neutral point; and

a probe assembly including:

a cable having a first conductor and a second conductor with the proximate end of said one conductor coupled to said processor and the proximate end of said second conductor connected to said signal neutral point; and

a stylus coupled to said cable and incorporating therein distal ends of said first and second conductors with the distal end of said first conductor disposed to receive signals from said layer when said contact points have signals selectively applied thereto and said user positions said stylus in vicinity of a user selected point on said surface, and with the distal end of said second conductor disposed to be contacted by said user when holding said stylus to connect said user to said signal neutral point;

wherein said position of said stylus relative to said surface of said layer is determinable by said processor from signals received from said first conductor of said stylus each in relation to a similar excitation of two different pairs of said three contact points under control of said processor.]

[6. An electrographic sensor unit as in claim 5 wherein:

said processor selectively applies AC signals to selected ones of said three spaced apart contact points;

said distal end of said first conductor detects signals radiated from said layer of conductive material as an antenna without making physical contact with said layer; and

said distal end of said second conductor when contacted by said user connects said user to said signal neutral point to minimize any noise radiated by said user from being received by said distal end of said first conductor and being delivered to said processor.]

[7. An electrographic sensor unit as in claim 5 wherein said stylus further includes an electrically conductive contact making electrical contact to said distal end of said second conductor, and located externally and positioned to be contacted by the user during use of said stylus.]

[8. An electrographic sensor unit as in claim 7 wherein said electrically conductive contact is a flexible conductive polymer that encircles said stylus at a position to maximize the user's comfort when holding said stylus.]

[9. An electrographic sensor unit in the form of a globe for use in determining the position of a user selected point on the surface thereof, which comprises:

a sphere formed of a layer of a conductive material having a substantially uniform electrical resistivity and an outer surface;

a set of four spaced apart contact points electrically interconnected with said layer of conductive material of said sphere;

a processor connected to said set of four spaced apart contacts and disposed to selectively apply a signal to each of said four contact points relative to a signal neutral point; and

a probe assembly including:

a cable having a first conductor and a second conductor with the proximate end of said one conductor coupled to said processor and the proximate end of said second conductor connected to said signal neutral point; and

a stylus coupled to said cable and incorporating therein distal ends of said first and second conductors with the distal end of said first conductor disposed to receive signals from said layer when said contact points have signals selectively applied thereto and said user positions said stylus in vicinity of a user selected point on said sphere, and with the distal end of said second conductor disposed to be contacted by said user when holding said stylus to connect said user to said signal neutral point;

wherein said position of said stylus relative to said surface of said sphere is determinable from three signals received from said stylus by said processor each in relation to a similar excitation of three different pairs of said four contacts on said sphere by said processor.

10. An electrographic sensor unit as in claim 9 wherein:

said processor selectively applies AC signals to selected ones of said four spaced apart contact points;

said distal end of said first conductor detects signals radiated from said layer of conductive material as an antenna without making physical contact with said layer of said sphere; and

said distal end of said second conductor when contacted by said user connects said user to said signal neutral point to minimize any noise radiated by said user from being received by said distal end of said first conductor and being delivered to said processor.]

[11. An electrographic sensor unit as in claim 9 wherein said stylus further includes an electrically conductive contact making electrical contact to said distal end of said second conductor, and located externally and positioned to be contacted by the user during use of said stylus.]

[12. An electrographic sensor unit as in claim 11 wherein said electrically conductive contact is a flexible conductive polymer that encircles said stylus at a position to maximize the user's comfort when holding said stylus.]

[13. An electrographic sensor unit for use in determining the position of a selected point, which comprises:

a first layer of a conductive material having an electrical resistivity and a first surface;

a first set of three spaced apart contact points electrically interconnected with said first layer of conductive material;

a second layer of a conductive material having an electrical resistivity and a second surface;

a second set of three spaced apart contact points electrically interconnected with said second layer of conductive material;

a processor connected to each of said first and second sets of three spaced apart contacts and disposed to selectively apply a signal to each of said three contact points in each of said first and second sets thereof; and

a probe assembly including:

a cable having a first conductor and a second conductor with the proximate end of said one conductor coupled to said processor and the proximate end of said second conductor connected to said signal neutral point; and

a stylus coupled to said cable and incorporating therein distal ends of said first and second conductors with the distal end of said first conductor disposed to receive signals from said layer with said usser selected point when said correspoading set of contact points have signals selectively applied thereto and said user positions said stylus in vicinity of a user selected point on one of said first and second surfaces, and with the distal end of said second conductor disposed to be contacted by said user when holding said stylus to connect said user to said signal neutral point;

wherein identification of which of said first and second surfaces said stylus is adjacent to is accomplished by said processor by independently measuring two signals from each of said first and second layers received by said stylus, combining said signals from the same layer independent of the signals received from the other layer to form a first and a second comparative value with each said comparative value associated with a different one of said first and second layers, and independently comparing each of said first and second comparative values to a preselected threshold value with the layer associated with the one of said first and second comparison value that is greatest and is greater than said threshold being the layer said stylus is closest to and therefore an identified layer of said first and second layers; and

wherein said position of said stylus relative to said identified one of said first or second layers is determinable by said processor from signals received from said stylus each in relation to a similar excitation of all of said three contact points on the identified one of said first and second layers and two different pairs of said three contact points on the identified one of said first and second layers under control of said processor.]

[14. An electrographic sensor unit as in claim 13 wherein:

said processor selectively applies AC signals to selected ones of said four spaced apart contact points;

said distal end of said first conductor detects signals radiated from said layer of conductive material as an antenna without making physical contact with said layer of said sphere; and

said distal end of said second conductor when contacted by said user connects said user to said signal neutral point to minimize any noise radiated by said user from being received by said distal end of said first conductor and being delivered to said processor.]

[15. An electrographic sensor unit as in claim 13 wherein said stylus further includes an electrically conductive contact making electrical contact to said distal end of said second conductor, and located externally and positioned to be contacted by the user during use of said stylus.]

[16. An electrographic sensor unit as in claim 15 wherein said electrically conductive contact is a flexible conductive polymer that encircles said stylus at a position to maximize the user's comfort when holding said stylus.]

* * * * *

17. An electrographic sensor unit comprising:

a) a surface;

b) a processor;

c) a signal neutral point;

d) a probe assembly including

(i) a first conductor with a proximate end and a distal end, the proximate end of the first conductor coupled to the processor,

(ii) a second conductor with a proximate end and a distal end, the proximate end of the second conductor coupled to the signal neutral point; and

(iii) a stylus incorporating at least a portion of the first and second conductors, wherein the stylus is free of active circuit elements; and

e) a speaker coupled to the processor,

wherein the position of the stylus relative to the surface is determinable by the processor.

18. The electrographic sensor unit of claim 17 wherein the signal neutral point is ground.

19. The electrographic sensor unit of claim 17 further comprising a random access memory coupled to the processor.

20. The electrographic sensor unit of claim 17 further comprising a memory coupled to the processor, wherein the memory comprises a database containing sound data for features of interest and their corresponding coordinates.

21. The electrographic sensor unit of claim 17 wherein the distal end of the first conductor is an antenna that is capable of receiving signals from the surface.

22. The electrographic sensor unit of claim 17 wherein the distal end of the first conductor forms an antenna.

23. The electrographic sensor unit of claim 22 wherein the surface is two-dimensional.

24. The electrographic sensor unit of claim 22 wherein the surface is three-dimensional.

25. The electrographic sensor unit of claim 17 wherein the stylus further comprises an electrically conductive contact comprising a conductive polymer coupled to the second conductor.

26. The electrographic sensor unit of claim 17 wherein the stylus further includes a tip, wherein the distal end of the first conductor is closer to the tip than the distal end of the second conductor.

27. The electrographic sensor unit of claim 17 wherein the surface is two-dimensional.

28. The electrographic sensor unit of claim 17 wherein the surface is three-dimensional.

29. The electrographic sensor unit of claim 17 wherein the processor is a microprocessor.

30. The electrographic sensor unit of claim 17 further comprising a demodulator coupled to the first conductor.

31. The electrographic sensor unit of claim 17 further comprising an analog to digital converter coupled to the first conductor.

32. The electrographic sensor unit of claim 17 wherein the second conductor surrounds the first conductor.

33. The electrographic sensor unit of claim 17 wherein the surface is in the form of a globe.

34. The electrographic sensor unit of claim 17 further comprising an audio/video card coupled to the processor.

35. The electrographic sensor unit of claim 17 further comprising an AC signal generator coupled to the processor.

36. The electrographic sensor unit of claim 19 wherein the signal neutral point is ground.

37. The electrographic sensor unit of claim 20 wherein the signal neutral point is ground.

38. The electrographic sensor unit of claim 21 wherein the signal neutral point is ground.

39. The electrographic sensor unit of claim 22 wherein the signal neutral point is ground.

40. The electrographic sensor unit of claim 23 wherein the signal neutral point is ground.

41. The electrographic sensor unit of claim 24 wherein the signal neutral point is ground.

42. The electrographic sensor unit of claim 25 wherein the signal neutral point is ground.